

although a limited influence upon the course and the issue of the disease; and the impartial examination of evidence teaches us, with a sufficient degree of precision, the best mode of availing ourselves of the three chief means which experience has pointed out to us, viz. bleeding, purgatives and tonics. Moreover the very partial success obtained hitherto, ought not to discourage the friends of science, and strengthen the belief that no better mode of treatment for the disease in question will ever be discovered. Who could ever have foreseen the effects of opium, or of cinchona, or the protective virtues of vaccine? What opportunity and observation have done already, they may do again, and therapeutics, like other departments of science, has every thing to expect from observation."

The appropriate treatment for typhoid fever in children, is nearly the same as in the case of adults, unless indeed blood-letting be more generally hurtful than salutary for the young, to whom very active remedial measures are rarely applicable.

The concluding chapter of the work before us treats of "the analogies and differences existing between typhoid fever and other acute febrile diseases." The typhoid, like other acute inflammatory affections, usually commences with a more or less active febrile paroxysm, a chill of variable duration, followed by heat and sweating, but in the former disease this paroxysm more frequently recurs, and is accompanied by pains in the limbs, headache, and a remarkable feebleness. To these symptoms are immediately superadded pains in the abdomen, and liquid stools. In other acute affections the number of symptoms is small, while in typhoid fever they are, so to speak, infinitely various, and the whole economy suffers, whether the attack be slight or severe. Thus in the abdomen we have almost always tympanitis, and enlargement of the spleen, and sometimes paralysis of the bladder, bloody evacuations, and painful deglutition. In the chest a moderate cough, and a sibilant ronchus, without oppressed breathing. Depending on the brain, an indisposition to the exercise of the mind, dullness and coma, restlessness, delirium, spasms, *subsultus tendinum*, and spasmodic rigidity of the limbs. The sight is dim, the hearing dull, and occasionally lost, there is buzzing in the ears, and bleeding at the nose. The skin displays its rose-coloured spots and sudamina.

The duration of typhoid fever differs from that of eruptive and acute febrile diseases in general, inasmuch as these latter generally run through all their periods in less than a fortnight, the earliest date at which M. Louis has seen a case of the former enter on convalescence. Its duration is also without fixed and natural limits, while eruptive diseases regularly pass through distinct stages of ascertained length.

"Admitting the contagious nature of typhoid fever, which it possesses in common with the *exanthemata*, it differs from these latter in sometimes arising spontaneously." But are there not many cases of eruptive fever whose contagious source is very doubtful?

The lesions of typhoid fever commence uniformly in the same point, while those of other acute diseases set out sometimes from one, and sometimes from another portion of the affected organ, and the anatomical character of the *exanthemata*, the eruption, breaks out in nearly every part of the body at the same time.

Finally, neither in those diseases already mentioned, nor in cholera, nor in typhus fever, nor in yellow fever, are to be found ulcerations, which in the typhoid affection occur not only in the intestinal canal, but in the oesophagus, on the epiglottis, and in the larynx.

A. S.

ART. XVI.—*Second Annual Report of the Registrar-General of Births, Deaths, and Marriages in England.* London: 1840. 8vo. pp. 240.

THIS volume is one of a series which will be eagerly sought after by those

interested in vital statistics. The present one* contains, 1st. The Report of the Registrar-General, T. H. Lister, addressed to the Marquess of Normanby, principal Secretary of State for the Home Department, accompanied by abstracts exhibiting in tabular forms, records of the marriages, births and deaths, not only for the metropolis and larger towns, but in the rural districts of England and Wales. 2dly. An appendix, showing the causes of death in England and Wales, in the form of a letter, addressed to the Registrar-General, by William Farr, Esq., dated London, June, 1840. It is this last abstract which will be viewed with the deepest interest by the investigator of vital statistics, since it embraces no less than 342,529 registered deaths, of which, the number having the causes assigned, amount to no less than 330,559. It will not, of course, be in our power to notice all the interesting facts developed in Mr. Farr's very rich communication, and we shall, therefore, content ourselves with referring to a few which we hope will prove acceptable to our readers.

Mortality of Males and Females.—In Great Britain, as well as other countries, it is observed that the mean duration of life is greater for females than for males. The mortality of males is shown by Mr. Farr to exceed that of females by seven per cent. The tables exhibit the principal diseases which lead to this result; and show that while the two sexes are concurrently exposed to the ravages of nearly all the causes of death, their degree of liability to death from particular maladies is very various. "The discrepancies," observes Mr. Farr, "may be ascribed to two sets of causes; a difference of organization, and a dissimilarity of habits and occupations, involving different degrees of exposure to the accidents, hardships and dangers of life. Deaths from childbirth, and deaths from violence are examples: 2811 women died in childbirth, while 8359 males and only 3368 females died violent deaths. The higher mortality, and the smaller number of males living, have been ascribed exclusively to intemperance, wars, excessive fatigue, and other external causes; but this ground is too narrow; for the differential mortality is greater in early childhood and before birth, than in the more advanced ages, and one of its causes must be sought in the intimate structure and properties of the body. The blood, the brain, and all the organs and functions present modifications in the two sexes; but I am not aware that any anatomical or physiological reason has been advanced to explain the singular facts, that 620 males and 1828 females died of cancer; 4036 males and 5071 females of hooping-cough; 27,935 males and 31,090 females of consumption; 4242 males and 3430 females of hydrocephalus; or 152 males and 55 females of diabetes."

This subject has been investigated by us, as will be seen by reference to the pages of this journal,† and we believe we were the first to identify the distinct sources of the different proportions of deaths among males and females, and the classes of diseases which proved most destructive to each, and to show that the excess in the mortality of males, more particularly under the ages of fifteen and twenty, was not the result of greater exposure to accidents, but arose from physiological causes; and chiefly those involved in the higher grades of inflammation.

Increased consumption of ardent spirits.—Among the causes operating in producing mortality, Mr. Farr alludes to the consumption of intoxicating liquors, which he says has increased faster than the population in the last twenty years, and the sale of spirits at a much more rapid rate than that of ale and wine, which last can only be injurious when taken to excess. This he proves by referring to the average annual number of bushels of malt on which duty was paid in England, which in the five years, from 1820 to 1824, inclusive, amounted to 25,834,345; in the five years from 1834 to 1838, inclusive, the consumption was 35,048,368 bushels. "Spirit drinking," he observes, "almost always ends in impairing the health; it takes away the appetite, wastes the limited means of the artisan, deprives his family of food, firing, clothing, and clean ventilated

* The first report was noticed in our number for January 1841, page 192.

† See No. for Nov. 1835, p. 56.

lodgings; leads to dissoluteness of every kind; and must therefore be considered one of the indirect, but certain causes of epidemics, of fevers, and of other diseases."

Comparative mortality of towns and rural districts.—The investigation of the subject of the comparative mortality of diseases in towns and the open country, presents many very interesting points. The population in 1838, of the metropolis, and what are called city districts, is stated at 3,726,221; that of the rural districts being 3,539,908. The mortality of the metropolis and twenty-four towns, was 101,019, whilst that of the rural districts was 70,410.

In the whole of England and Wales, the mean mortality under three years of age, was 343 out of every 1000 deaths at all ages. Although, as a very general rule, the mortality of children is greatest in large towns, it is singular that in the metropolis the proportion is so small as 338 out of every 1000 deaths at all ages. In Manchester, the deaths under three years amount to 496 out of every 1000 males of all ages, being about fifty per cent. of the general male mortality. The mean deaths of children under three years, in Manchester and Salford and suburbs, were 475 out of 1000 deaths. In Leeds and its suburbs, the proportion was 447; in Birmingham, 440; in Liverpool and West Derby, 437; while in Dorsetshire and Wiltshire, it was 281; in Devonshire, 296; in the North Riding of Yorkshire, with Durham, (except the mining parts,) and the northern part of the West Riding, 282; and in the northern part of Lancashire, Westmoreland, Cumberland, and Northumberland, (except the mining portion of the latter,) not more than 253. With respect to the proportion of deaths reported from old age, equally remarkable contrasts are exhibited by the towns and rural districts.

"The proportion out of every 1000 deaths, which have been at the age of 70 and upwards, has been, in Manchester, only 53; in Liverpool, 60; in Leeds, 68; in Birmingham, 78; in the Metropolis, 99; while in the North Riding of Yorkshire and the agricultural parts of Durham, it is 202; in Devonshire, 208; and in the north of Lancashire, Westmoreland, Cumberland, and Northumberland, not less than 210. In the whole of England and Wales, the proportion, out of 1000 deaths occurring at 70 and upwards, was 140.

"Great also are the differences exhibited by the mining districts and the agricultural districts which surround them, with respect to mortality both in childhood and in advanced age.

"In the mining parts of Staffordshire and Shropshire, the mean deaths in 1000 at all ages under three years were 462; at 70 and upwards, only 90. In the rest of Staffordshire, Shropshire, and Cheshire, the proportion under three years was 332; and 70 and upwards, 141. In the mining parts of Northumberland and Durham, the proportion of deaths under three years of age was 349; of deaths at 70 and upwards, 150; while in the surrounding agricultural districts, comprised in Divisions 22 and 24, the proportions of deaths under three were only 282 and 252; and of deaths at 70 and upwards, 202 and 210."

It is well known that the same injuries and diseases are more fatal in cities than in the country, which, Mr. Farr observes, may account for the higher mortality from violent death, hernia and some other causes. Parturition is as frequent in the country as in town, where it is nevertheless so often followed by puerperal fever as to be 63 per cent. more fatal. The greater strength of the recuperative powers in the country, add greatly to the success of surgical operations, which in cities would be regarded as of doubtful expediency or altogether hopeless.

With regard to the mortality in the metropolis, a very considerable disparity exists in the proportions reported for the eastern, and the western and northern districts, the mean duration of life in the first being only from 25 to 30 years, whilst that of the latter was as high as from 40 to 50 years.

"The first writers who established satisfactorily the high mortality of cities took a gloomy and perhaps fanatical view of the question. Cities were declared vorlices of vice, misery, disease, and death; they were proclaimed 'the graves of mankind.' The population of the country, it was said, was drawn to them

to be sacrificed; and those who entered left all hope behind, for no prospect of health in cities was beheld. Happily the further application of the methods which those eminent writers employed, and the facts which the registers furnish, enable us to analyze the causes of death in cities; and to show that while the mortality is increased as much as they stated, the apprehensions into which they were betrayed were ill-founded when applied to the future. There is reason to believe that the aggregation of mankind in towns is not inevitably disastrous. Health and life may be preserved in a dense population, provided the density be not carried beyond certain limits. Of this the nature of the causes to which the mortality is due, as well as the rapid improvement in the health of London within the last two centuries, is presumptive proof; and the favourable condition of several districts of the metropolis leaves little room for doubt on the subject."

In other towns the proportional mortality of different districts varies quite as much as in the metropolis, as will be seen from the following examples:—

	Population in 1838.	Deaths.	Annual percentage mortality.
<i>Liverpool.</i>			
Liverpool,	207,826	6627	3.189
West Derby,	75,003	1625	2.267
<i>Manchester.</i>			
Manchester,	174,482	6035	3.459
Blackley, &c.	30,533	671	2.198
<i>Birmingham.</i>			
Birmingham,	133,168	3359	2.581
Aston,	46,061	1099	2.386

The proportion of population in England living in cities, exceeds that of any other country in Europe, and increases more rapidly than the population of the rural districts. Within the last few years, great improvements have been made in all the circumstances upon which the health of the metropolis depends; such as the careful exclusion of all unnecessary animal and vegetable matter; the immediate removal of residual products; the opening of streets so as to favour the dilution of unhealthy exhalations; the erection of public slaughter-houses in the precincts; the supplying of pure water; the more effectual draining, and improvement in the sewers, &c. In relation to this subject, Mr. Farr observes, "Wide streets, squares, and parks, with spacious houses, would render ventilation easy, and secure the dilution of poisonous emanations; but the ground is valuable, and building is dear in cities; hence there has been a constant and an unopposed tendency in landlords to accumulate the greatest number of houses on the least possible space in poor districts, and the families of artisans are driven to crowd in small, low, close rooms. The evils from this source are one of the contingencies of poverty and ignorance; they may, however, be met by opening, in the densest neighbourhoods, a certain number of wide streets, through which the collateral streets would be ventilated by fresh atmospheric currents. As information spreads among tenants, landlords will naturally render the districts in which their property lies healthy. Men will pay higher rents rather than expose themselves and their families to the risk of sickness and death. The landlords of the metropolis, at whose expense the improvements must be made, are deeply interested in its sanatory state; for every amelioration conducive to the health of the inhabitants raises the value of houses, while the deterioration of the atmosphere must inevitably drive the wealthy out of town, and lead to the erection of residences in the country, which the facilities of travelling will every day render more accessible."

Mortality of the different seasons.—The influence of the seasons in the production of fatal diseases at the present day, and so far as the metropolis is concerned, is strikingly exhibited by the deaths registered in the four quarters of

the year 1838, in which we find the amount for winter, 15,611; spring, 13,109; summer, 11,397; autumn, 12,581. Summer was, therefore, the healthiest season, and winter the most fatal, an observation which accords with all those made since the beginning of the last century. The early English writers, however, found the relative salubrity of the seasons in accordance with the rule laid down by the Greek and Roman authorities, as summed up by Celsus in the aphorism; *saluberrimum ver est; proxime deinde ab hoc, hiems; periculosior aestas: autumnus longe periculosisimus.* This order of salubrity, which, as already observed, formerly obtained in London, is still found to subsist in Rome, and other towns on the shores of the Mediterranean. In attempting to explain the operation of the seasons and other circumstances tending to the production of the results furnished, Mr. Farr makes the following remarks:—

“The reduction of temperature alone, when the atmosphere reaches the freezing point, is fatal to a certain number of persons; at the same time many artisans are thrown out of employment, the small earnings of the poorer classes are diminished, and, as fuel is dear, the air, to exclude the cold, is shut out of their dwellings, until it becomes highly insalubrious. Warm weather creates a demand for labour out of doors, and excites all the functions when it is not carried to excess. As the temperature advances, and autumn comes on, dead vegetable and animal matter undergoes rapid decomposition; the living are infected; and, where the miasmata are concentrated in cities, or in undrained lands, remittent fevers, dysenteries, plagues, and malignant maladies, are generated.

“It therefore follows, that the same atmospheric conditions, and the same changes of temperature, may produce directly opposite effects on the relative mortality of the seasons in populations placed in different circumstances. Winter may be the most fatal to the inhabitants of a city on a favourable site, furnished with sewers, or to an agricultural population occupying a dry soil; and summer to the inhabitants of marshy districts, or of cities in which the refuse of organic matter is exposed to putrefaction. In proportion as the severity of the weather or malaria preponderates, the winter or summer will be the unhealthiest season.”

Diminution of mortality produced by modern improvements.—A comparison drawn by Mr. Farr, between the rate of mortality observed in the metropolis in the four years, embracing 1606 to 1610, and 1838, exhibits in a most striking manner the improved state of health in London, and how much life is under human control. If the annual mortality of the metropolis had been the same in 1838, as it was in 1606-10, the deaths in the four seasons would have stood thus contrasted.

<i>Year.</i>	<i>Winter.</i>	<i>Spring.</i>	<i>Summer.</i>	<i>Autumn.</i>
1606-10	26,200	28,210	39,670	37,960
1838	15,611	13,109	11,397	12,581

The rate of mortality for the earliest period, was seven per cent. of the population, whilst that for 1838 was only 2.81 per cent.! It may be proper to remark that the first period does not embrace any of the plague years during five of which the average mortality constituted 25 per cent., or one-fourth of the population.

Mean temperature.—The following extract from Mr. Farr's letter shows the mean temperature of the year, and of the respective seasons in and near London, together with the dryness of the atmosphere.

“At Chiswick, in the vicinity of London, the mean temperature of winter (January 1st to March 31st) was 40°, spring 55°, summer 61°, autumn 45°, during the ten years 1826-35; in 1838 the mean temperature of winter was 35°, spring 52°, summer 60°, autumn 44°. The mean temperature of the year was 47°.6, of the ten years preceding, 50°.5. The mean temperature of January was 4° below the freezing point; while on an average of the ten years, 1826-35, it was 4° above the freezing point. In the shade the thermometer fell 4½° below zero, or 14° lower than in 1826-35, when the minimum observed was 10°. The cold in London was less intense. The temperature of the four

seasons at the apartments of the Royal Society, Somerset House, was $36^{\circ}, 53^{\circ}$, $61^{\circ}, 45^{\circ}$,—of the year $48^{\circ}.9$. The thermometer did not fall lower than 11° .

"The dryness of the seasons, measured at Chiswick with Mr. Daniel's dew-point hygrometer was 20.2 ; 50.7 ; 40.7 ; 10.3 , in 1826–35; and 10.9 ; 60.1 ; 40.2 ; 10.0 , in 1838. The moisture was above the average; yet the quantity of rain that fell was only $21\frac{1}{2}$ inches, while the average quantity, from 1826–35 was 24 inches.

"The electric state of the atmosphere was not observed; but it is indicated by the deaths from lightning, which in the kingdom amounted to 24; in winter 1, spring 10, summer 11, autumn 2."

In the metropolis the cold increased the mortality from the following named causes to the greatest extent.

	Winter.	Spring.	Summer.	Autumn.
Paralysis,	234	181	135	187
Apoplexy,	299	241	201	216
Asthma,	760	225	97	331
Hydrothorax,	90	73	43	79
Bronchitis, Pleurisy, Pneumonia,	1699	870	545	1154
Diseases of the Heart, &c.	273	159	177	211
Diabetes,	12	4	1	6
Dropsy,	501	427	375	465
Mortification,	84	50	35	56
Sudden Deaths,	216	165	105	146
Old Age,	1383	969	778	981
Consumption,	1944	2109	1905	1729

Epidemics.—Whilst the causes of death thus enumerated seem to be regulated by seasons and influenced by increase or diminution of temperature, there are others which operate with almost equal force throughout the year. "The diseases of the epidemic class," Mr. Farr observes, "follow laws of their own; they remain nearly stationary during months, years, and, as we learn from mediæval history, centuries; then suddenly rise, like a mist from the earth, and shed desolation on nations—to disappear as rapidly or insensibly as they came. The pestilences of ancient history, the plagues of England, cholera, influenza, smallpox, and typhus, are examples of this peculiar tribe of diseases. Epidemics have furnished much matter for discussion, and still offer large scope for inquiry. They have been attributed to terrestrial emanations, to the influence of the stars, to mysterious changes in the atmosphere, to heat, to animalculæ, to deteriorated food, to contagion; and acting upon the latter doctrine, it has been assumed that the prohibition of direct intercourse with districts in which they prevailed would protect the inhabitants of a country from invasion.

"The registration has already yielded facts which are likely to throw light upon the propagation of epidemics."

Mr. Farr furnishes a highly interesting statement of the *smallpox epidemic* which prevailed from July, 1837, to December, 1839, a period comprising two winters, two springs, three summers, and three autumns, constituting ten seasons or quarters. He exhibits in separate tables the deaths from this source, not only in the metropolis, but in 324 divisions of the kingdom. An examination of the facts connected with the rise and progress of this epidemic, shows most evidently, that the disease was not regulated by temperature or change of season, since at the time that it was commencing in one district it was at its height, or was declining in another, placed apparently under the same general circumstances. More than thirty thousand persons (30,819) fell victims to the epidemic. The mortality increased up to the fourth season or quarter of the epidemic period. The deaths in the first quarter were 2513, in the second 3289, in the third 4242, which is about at the regular rate of 30 per cent. The rate of increase is retarded at the end of the third quarter, and only rises 6 per cent. in the next, where it remains stationary, like a projectile at the summit of its curve. The decline of the epidemic was less rapid than its rise. In the metropolis the mortality was greater than in all the other parts of England.

Mr. Farr's investigations show that the rates of increase vary with the density of population, the numbers susceptible of the attack, and other accidental circumstances. He thinks that the smallpox increases at an accelerated and then a retarded rate; that it declines first at a slightly accelerated, then at a rapidly accelerated, and lastly at a retarded rate, until the disease attains the minimum intensity, and remains stationary. It was sometimes arrested by vaccination, which protected a part of the population. Where inoculation was resorted to he had reason to believe it led to the extension of the epidemic by diffusing the infection artificially.

Among other epidemics which contributed to swell the mortality, Mr. Farr informs us that in the beginning of January, 1838, the cholera broke out in the Coventry House of Industry, the deaths from which were 55, (27 males and 28 females.) It did not spread through the town.

In noticing this second annual report of the British Registrar-general, we could not restrain ourselves from furnishing a few of the abundant interesting facts and details with which it abounds. Such publications are treasures of information, whose stores contribute to the attainment of exact knowledge for present and future use. They reflect the highest honour upon the enlightened government by which they were designed, and all concerned in the exceedingly laborious task of making the calculations and tabular statements. G. E.

ART. XVI.—*Grundzüge zur Dipsobiostatik, oder Politisch-Arithmetische, auf ärztliche Besbachtung gegründete Darstellung der Nachtheile, welche durch den Missbrauch der Geistigen Getränke in hinsicht auf Bevölkerung und Lebendauer sich Ergeben.* Von Dr. Fr. WILH. LIPPICH. Erstes und zwentes hundert der Beobachtungsfäller, 8vo., pp. 150. Liabach, 1834.

Sketches of Dipsobiostatics, or a Politico-Arithmetical Exposition of the Prejudicial Influence Resulting from the Abuse of Intoxicating Drinks, in respect to Population and the Duration of Life, based upon Medical Observations. By Dr. F. W. LIPPICH. First and second century of observations.

AMONG the various causes by which the vital energies of the human organism are impaired, the functions of its several organs impeded or disturbed, and the occurrence of positive disease, either invited or produced, no one, confessedly, is more efficient or common than the abuse of intoxicating drinks. But while this fact is very generally recognized, the actual nature and amount of the etiological influence which the habitual use of alcoholic fluids exerts, is, nevertheless but little, if at all understood. The statistics of intemperance, in reference especially to those particulars which have an immediate bearing upon pathology, have been almost entirely neglected, rendering thus the general statements made by medical writers, of its effects in the production, or in the modification of the character of diseased action, as well as of the influence it exerts upon the operation and results of the usual therapeutic agents, altogether loose and unsatisfactory—preventing thus the possibility of our deriving from them any deductions of an accurate or practical character.

To contribute his aid towards supplying the deficiency in our information upon this important subject, is the object of Dr. Lippich in the work before us, which presents a variety of highly interesting views in relation to it, based upon the results of the author's own observations. The value, however, of the general results deducible from the several tables in which the facts collected by Dr. Lippich are arranged, is, to a certain extent, impaired by the limited field of observation from which they are derived. To enable us to form correct general conclusions in regard to the actual nature and amount of the morbid influence exerted by intoxicating drinks, will require a larger series of similar statistics to those furnished by our author, derived from more extended observations, made in different communities, and among persons in all the various classes of society.

The observations of Dr. Lippich are derived from two hundred patients, re-